AWARD NUMBER: W81XWH-14-1-0325

TITLE: Changing Family Roles - Across the Deployment Cycle

PRINCIPAL INVESTIGATOR: Shelley MacDermid Wadsworth

CONTRACTING ORGANIZATION: Purdue University
                                                        West Lafayette, IN 47907

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13. SUPPLEMENTARY NOTES

14. ABSTRACT OVERVIEW: This multi-informant, longitudinal investigation of Army National Guard families' experience of deployment project focuses on a) the negotiation and management of family roles during deployment cycles, and b) on the impact of technology-based communication during deployment on later psychological distress and role functioning.
PROGRESS TO DATE:
- Recruited 83 families with federal funding for a total of 132 since proposal submission.
- Obtained reintegration data from 219 families.
- Seven conference presentations delivered; four presentations accepted, two manuscripts published, others under review.
Findings Regarding Deployment Communication: At-home partners who reported higher levels of support also reported feeling closer to service members. On days when at-home partners reported receiving more support, they also reported feeling closer to service members.
Finding Regarding Sibling Relationships: At-home partners reporting *higher* levels of warmth and *lower* levels of agonism also reported *lower* levels of externalizing behavior in their children. When at-home partners reported their children's relationship changed over the course of the study, so did their reports of externalizing behavior in their children.

15. SUBJECT TERMS
Family Roles, Resilience, Communication, Deployment, Household Tasks, Trajectories

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a. REPORT	b. ABSTRACT	c. THIS PAGE	Unclassified	12	19b. TELEPHONE NUMBER *(include area code)*
Unclassified	Unclassified	Unclassified			

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1   INTRODUCTION:

This project focuses on a) the negotiation and management of family roles during deployment cycles, and b) on the impact of technology-based communication during deployment on later psychological distress and role functioning. It builds on a multi-informant, longitudinal investigation of Army National Guard families' experience of deployment initiated with philanthropic funding. We gather data from families once before deployment, two times during deployment, and three times during reintegration. A team of interviewers travels to the families' home, interviewing the service members, their spouse / partners and up to two adolescent children. All family members present at the home interview participate in a 10-minute family interaction task, which is video recorded. In addition to the home interviews, we gather additional data using surveys and data bursts – a series of brief data collections within a week. During deployment, the spouse / partner completes a series of surveys regarding daily communication with the (deployed) service member. During reintegration, the service member and partner complete a series of brief telephone interviews regarding their negotiation about household and parenting responsibilities. We are working to understand how these communications impact couples' trajectories of risk and resilience. This understanding will inform the design of preventive interventions for military couples experiencing deployment.

2   KEYWORDS:

Family Roles, Resilience, Communication, Deployment, Household Tasks, Trajectories

3   ACCOMPLISHMENTS:

Below, we describe our year 3 accomplishments and year 4 plans for each task on the approved statement of work.

Task 1: Receive regulatory approval from Purdue IRB and Department of Defense Human Research Protection Office (timeframe, months 1-2).

YEAR 3 ACCOMPLISHMENTS:

This task is completed; nonetheless, we continue to maintain good standing with the regulatory bodies.
- Continuing Review submitted to Purdue IRB 18 MAY 2017
- Continuing Review approved by Purdue IRB 26 MAY 2017.
- Approved Continuing Review with supplementary paperwork submitted to HRPO 16 JUN 2017.
- HRPO Review of the Continuing Renewal from Purdue completed (and approved) 28 JUN 2017.
- Submitted amendment to Purdue IRB reflecting Shawn Whiteman's departure from Purdue to Utah State and now working on the project through a subcontract -- 27 JUL 2017.
- Received approval from Purdue IRB 21 AUG 2017.
- Submitted Purdue's approval to HRPO for their review -- 10 SEP 2017.

YEAR 4 PLANS:

- File necessary reports to remain in good standing with both regulatory bodies.

Task 2. Obtain command permission from deploying units to invite their families to participate in this study (timeframe, months 1 – 15).

> YEAR 3 ACCOMPLISHMENTS:

> - As planned, we obtained Command permission to recruit at the three briefings during the first two quarters of Year 3. This task is now complete.

> YEAR 4 PLANS:

> - This task is now complete.

Task 3. Successfully complete recruitment of 75 families into the study (timeframe, months 01-17).

> YEAR 3 ACCOMPLISHMENTS:

> - During this past year, we have recruited 36 new families with federal funding. (Three of these families joined the study at reintegration; 33 at predeployment). Over the life of this project, we have now recruited 83 families with federal funding, in addition to the 59 families recruited with philanthropic funding. Altogether, we have added 132 families to the study since we submitted our proposal.

> YEAR 4 PLANS:

> - This task is essentially complete. As of these writing, we are still in conversation with five families who are interested in joining the study at reintegration. While we hope to have their participation, we are grateful for the 83 families who have already participated.

Task 4. Successfully complete base-line (pre-deployment) data collection with the entire sample (timeframe, months 01-19).

> - With the introduction of the "refreshment sample" into our study – families joining the study at reintegration – we now gather baseline data at two different time points: predeployment for most, but the first reintegration interview for the refreshment sample.

> YEAR 3 ACCOMPLISHMENTS:

> - During the past year, we gathered predeployment data from 33 families and baseline data from 3 refreshment sample families.

> YEAR 4 PLANS:

> - Although we may still obtain baseline data from a handful of refreshment sample families, we have completed our last predeployment interview for this study.

Task 5. Successfully gather reintegration data from 230 families.

> YEAR 3 ACCOMPLISHMENTS:

> - Twenty-five families entered the reintegration data collections phase 16 AUG 2017 - 15 AUG 2017. As of this writing, we have reintegration data from 219 families.

YEAR 4 PLANS:

- As of 14 AUG 2017, 28 families in the current sample have yet to enter the reintegration phase of data collection. In the coming year, we plan to complete reintegration data collections with the entire sample. We will continue our efforts to refresh the existing sample by inviting families returning from deployment to join the study at reintegration.

Task 6. Quality check received data collected from the field interviews (timeframe, months 1-42).

YEAR 3 ACCOMPLISHMENTS:

- With our experienced field staff, we have reduced our quality checking to 1 in 4 field interviews. No remediation plans have been needed over the past year.
- Telephone interviewers are undergraduate students. Overall, their interviewing skills have developed well. As there is turnover in these positions, detailed quality checks for this team continue. The system implemented last year where our (experienced) field interviewers conduct quality checks for telephone interviewers has worked well. This gives our field interviewers an opportunity to help mold undergraduates' skills while it reinforcing their own skills.
- We continue to monitor the quality of iPad data collection. We continue to be assertive about immediately troubleshooting reported issues. Field interviewers always have a paper interview protocol they can switch to if needed. The audio recordings are also available if needed.

YEAR 4 PLANS:

- Continue quality checks as reported above until we have completed data collection.

Task 7. Complete cross-linking and validation of longitudinal and multi-informant data (time-frame, months 25-42).

YEAR 3 ACCOMPLISHMENTS:

- With completion of the predeployment data collection protocols, we have initiated a increasingly detailed review of the data collected during this phase. In cases where the participants' responses do not appear to be internally consistent, we will ask a work-study student to listen the recording and discern either a) possible mistakes made by the interviewer while recording responses, or b) an explanation of the apparent discrepancy.
- We have also initiated developed syntax files to organize and cross-link data from the task interviews. Our initial presentation of these data will be at the NCFR conference in November 2017. We expect to continue to incorporate these data throughout year 4.

YEAR 4 PLANS:

- Continue linking and validation of the task interview data. We have accumulated a large quantity of these data that are nest at multiple levels (within person, time point and family), which creates layers of complexity that to sort out for analytical datasets.

- Continue our efforts to thematically code the qualitative questions from our mixed methods study. Similar to the task interviews, we have amassed a large quantity of these data nested within person, family and time point. We have devised a plan to make the coding process more efficient, which we will implement during year 4.

Task 8. Complete data analysis, scientific reports, and manuscripts for publication (timeframe, months 24-48).

YEAR 3 ACCOMPLISHMENTS:

Although we are still gathering data, we have started to analyze our data from the predeployment and deployment phases. We made three presentations last year from work done on this project.

- Coppola, E.C. (2016, November). Trajectories of psychological functioning in military couples. Poster presented at the National Council on Family Relations Annual Conference, Minneapolis, MN.
- Marini, C., & MacDermid Wadsworth, S. M. (2016, November). An evaluation of perceptual congruence in conflict behavior post-deployment. Presented at the annual conference of the National Council on Family Relations, Minneapolis, MN.
- Whiteman, S.D., & Loeser, M.K. (2017, April). Sibling relationships across the deployment cycle: Risk or protective relationships. Session presented at the Society for Research on Adolescence Biennial Conference, Baltimore, MD.

Two previously delivered presentations have been published in peer-reviewed journals.

- Wilson, S. R., Marini, C. M., Franks, M. M., Whiteman, S. D., Topp, D., & Wadsworth, S. M. (2017). Communication and connections during deployment: A daily-diary study from the perspective of at-home partners. *Journal of Family Psychology* https://doi.org/10.1037/fam0000333
- Marini, C. M., Wadsworth, S. M., Christ, S. L., & Franks, M. M. (2017). Emotion expression, avoidance and psychological health during reintegration: A dyadic analysis of actor and partner associations within a sample of military couples. *Journal of Social and Personal Relationships*, *34*(1), 69–90. https://doi.org/10.1177/0265407515621180

As of this writing, three new analyses have been accepted for presentations.

- Coppola, E.C. (2017, November). Family Functioning and Posttraumatic Stress Disorder in Military Service Members. Poster presented at the National Council on Family Relations Annual Conference, Orlando, FL.
- Marini, C.M. (2017, November). Stress Generation and Marital Discord: Linking Marital Quality and Mental Health. Poster presented at the National Council on Family Relations Annual Conference, Orlando, FL.
- McCall, C.E. (2017, November). Renegotiating and Communicating about Household Tasks during Reintegration. Poster presented at the National Council on Family Relations Annual Conference, Orlando, FL.

YEAR 4 PLANS:

- Submit conference presentations as manuscripts for publication.
- Complete three additional manuscripts and submit them for publication.
- Initiate new analyses for conference presentations.

3.1 What opportunities for training and professional development has the project provided?

This project offers extensive training opportunities for both graduate and undergraduate students who conduct day-to-day operations. Students who are interested in developing these skills have opportunities to manage some aspect of the project, (e.g. scheduling, supplies, logistics, compensation). Students who would like analyst experience have the opportunity to compile, clean and analyze data. Students also work on coding video data and thematic analyses of transcribed interviews. Finally, students who want research experience have opportunities to participate in primary data collection conducting interviews with service members and their family members. This work gives them hands-on experience with research and an increased understanding of the experiences of military families. The staffing roster, below, reflects the extensive number of students we incorporated into the staff for this project.

As we have begun to analyze these longitudinal nested data, the investigators with statistical expertise have helped graduate students and staff members develop advanced analytical stills appropriate for these data. In July 2017, one of the faculty partners on this project provided four session workshop on Structural Equation Modeling using data from this project. Other topics over the past year have included missing data imputation, longitudinal reliability testing, and trajectory analyses.

Finally, students working on manuscripts from this project participate in a writing group that meets biweekly during the school year and every week during the summer. Facilitated by a graduate student trained by the Purdue Writing Lab, students take turns reading each other's manuscripts and providing supportive critique. Students report that over a period of months, they have learned how to "think like a writer" and developed skills that help them write more effectively.

3.2 How were the results disseminated to communities of interest?

Conference presentations and manuscripts have been the focus of our dissemination efforts so far. Over the past year, we have engaged with our partners at the Nathanson Family Resilience Center at UCLA (NFRC) to help us reap the clinical and military significance of this study. Although the work is still in early stages, they see clear potential. The longitudinal nature of the study can show us when in the deployment cycles are the times of highest stress for families. This will help us understand when families might need us most, and in what specific ways. For example, they may need help with communication during pre-deployment & re-integration but parenting support during deployment. This collaboration has already yielded a chapter in the forthcoming book: *American Military Life in the 21st Century: Social, Cultural, Economic Issues & Trends*.

4   IMPACT:

4.1   What was the impact on the development of the principal discipline(s) of the project?

As reported above, team members continue to make presentations at the annual meeting of the National Council on Family Relations (NCFR). Many of these presentations subsequently published in Family Studies journals; of course, some are also published in other disciplines. Poster and concurrent sessions devoted to military family issues are established components of the NCFR meeting. This year, a team member is also leading a focus group for professional who are interested in doing research related to military families and children.

4.2   What was the impact on other disciplines?

We have a collaborator from the Communications Department (Dr. Steven R. Wilson) who has published findings from this project. He has developed collaborative relationship with researchers in his discipline who have an interested in these topics.

What was the impact on technology transfer?

Nothing to report.

What was the impact on society beyond science and technology?

Nothing to report.

5   CHANGES/PROBLEMS:

5.1   Changes in approach and reasons for change

There are no changes in approach at this time. We have met our recruitment goals. At this point in the study, we are focusing on finishing the last couple of deployment interviews and moving families into the reintegration data collection. For the remaining comparison group families who did not experience deployment, we may accelerate their participation in the task interview calls, to increase the data available for these analyses.

5.2   Actual or anticipated problems or delays and actions or plans to resolve them

None at this time.

5.3   Changes that had a significant impact on expenditures

None at this time.

5.4   Significant changes in use or care of human subjects, vertebrate animals, biohazards, and/or select agents

None at this time.

6   PRODUCTS:

As mentioned above, the team gave four conference presentations this past year. Two additional ones have been accepted for the coming year. Although manuscripts have been submitted, as of this writing, they remain under review.

PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS

Name	Position	Responsibilities	Person Months
Bailey, Keisha	Graduate Student	Interviewer Management; Data Quality; Manuscript Preparation	6.0
Bairnsfather , Nickolaus B	Graduate Student	Data Management	2.0
Bates, Alexa	Undergraduate	Task Interviews; Qualitative Data Analysis	3.0
Birch, Elise	Undergraduate	Task Interviews; Qualitative Data Analysis	2.0
Cardin, Jean Francois	Admin/Professional	Data Management; Manuscript Preparation	1.0
Cho, Grace	Undergraduate	Video Coding	1.0
Christ, Sharon	Co-Investigator	Quantitative Data Analysis; Manuscript Preparation	1.0
Christiansen, Hannah	Undergraduate	Task Interviews; Qualitative Data Analysis	0.6
Collins, Christy	Graduate Student	Video Coding; Manuscript Preparation	1.5
Coppola, Elizabeth	Graduate Student	Interviewer Management; Data Quality; Manuscript Preparation	4.0
Cowan, Alana	Undergraduate	Field Interview Supplies	2.0
Davis , Chloe A	Undergraduate	Task Interviews; Qualitative Data Analysis	1.5
Downs, Hannah	Undergraduate	Field Interview Scheduling; Interview Fidelity Checking	4.0
Elliot, Amy	Graduate Student	Manuscript Review	0.8
Franks, Melissa	Faculty	Manuscript Preparation	1.2
Glowacki , Olivia R	Undergraduate	Task Interviews; Qualitative Data Analysis	2.0
Hill, Kia	Undergraduate	Task Interviews; Qualitative Data Management &Analysis	8.0
Johnson, Rita	Service	Data Capture	0.6
Khan , Fatima	Undergraduate	Qualitative Data Analysis	0.6
Kitchel, Aspen	Undergraduate	Task Interviews; Qualitative Data Analysis	0.5
Kumar , Varsha	Undergraduate	Task Interviews; Qualitative Data Analysis	2.0
Lambert , Taylor	Undergraduate	Task Interviews; Qualitative Data Analysis	1.5
Leibering, Felicia	Undergraduate	Task Interviews; Qualitative Data Analysis	0.9
Liew , Chye Hong	Graduate Student	Task Interviews; Data Management	1.5
Luft, Kathryn	Undergraduate	Task Interviews; Qualitative Data Analysis	2.4
MacDermid Wadsworth, Shelley	Principal Investigator	Intellectual and Operational Leadership	2.4
Mangan , Elizabeth K	Undergraduate	Task Interviews; Qualitative Data Analysis	1.5
Marini, Christina	Graduate Student	Data Quality; Manuscript Preparation	2.0
McCall, Christine	Graduate Student	Interviewer Management; Data Quality; Manuscript Preparation	5.0
Nagarajan , Srinithya	Undergraduate	Task Interviews; Qualitative Data Analysis	1.5

Name	Position	Responsibilities	Person Months
Peterson, Kevin	Undergraduate	Interviewer Compensation; Data Cleaning	1.6
Poojary , Brijesh	Graduate Student	Qualitative Data Management	1.5
Puetzer , Rebecca	Undergraduate	Task Interviews; Qualitative Data Analysis	1.5
Relton, Joshua	Undergraduate	Participant Compensation	0.1
Smith, Kristal	Undergraduate	Task Interviews; Qualitative Data Analysis	1.6
Southwell, Kenona	Service	Qualitative Data Analysis; Data Quality; Manuscript Preparation	8.0
Thompson , Katherine E	Undergraduate	Supplies and Logistics	3.0
Topp, Dave	Admin/Professional	Operations Management	4.8
Wagner, Janet	Admin/Professional	Data Management	3.6
Whiteman, Shawn	Faculty	Quantitative Data Analysis; Manuscript Preparation	1.2
Wilson, Steven	Faculty	Manuscript Preparation	1.0
Wu , Lipu	Undergraduate	Data Management	0.6
NATHANSON FAMILY RESILIENCE CENTER (UCLA)			
Lester, Patricia, M.D.	Subcontractor	Principal Investigator	
Hajal, Nastassia J.	Subcontractor	Project Manager	
Babayan, Thomas V.	Subcontractor	Investigator	
Castaneda, Marleen	Subcontractor	Investigator	
Kiff, Cara	Subcontractor	Investigator	
Marlotte, Lauren E.	Subcontractor	Investigator	
Mogil, Catherine E.	Subcontractor	Investigator	

Has there been a change in the active other support of the PD/PI(s) or senior/key personnel since the last reporting period?

Nothing to report.

What other organizations were involved as partners?

As mentioned about, the Nathanson Family Resilience Center at UCLA has begun their subcontract work with us.

7 SPECIAL REPORTING REQUIREMENTS:

Quad Chart is attached.

Changing Family Roles Across the Deployment Cycles
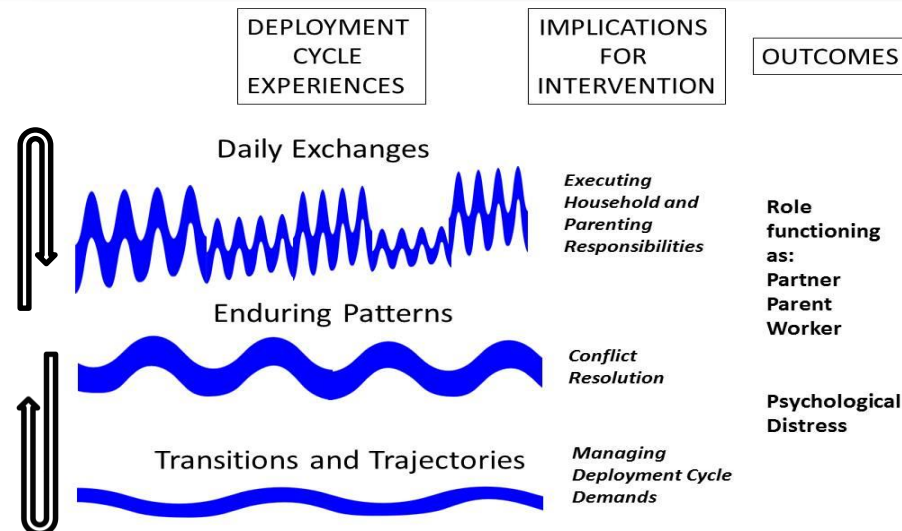
Log Number: A-18396
Award Number: W81XWH-14-1-0325

PI: Shelley MacDermid Wadsworth   **Org:** Military Family Research Institute at Purdue   **Award Amount:** 3,547,933

- The influence of . . .
  - technology-based communication during deployment, and
  - the process of negotiating and managing family roles throughout the deployment cycle
  . . . on future role functioning is poorly understood;
- Understanding family life in terms of three related but distinct "layers" would be useful to identify points of intervention;
- These layers have implications for many interventions aimed at helping families during deployment cycles.

Timeline and Cost

Activities FY	15	16	17	18
Regulatory Approvals	▬			
Recruitment of New Families	▬	▬		
Deployment & Reunion Data Collection w/ Existing Sample	▬	▬		
Data Collection New Families	▬	▬	▬	
Data Bursts re: Roles	▬	▬	▬	
Data Cleaning	▬	▬	▬	
Data Analyses	▬	▬	▬	▬
Report Preparation	▬	▬	▬	▬
Estimated Budget ($K)	$1160	$915	$799	$674

Goals/Milestones (Example)
FY15 Milestones: ☑ Receive regulatory approval
☑ Initiate Task Negotiation Data Bursts with existing sample
FY16 Milestones: ☑ Complete recruitment of 75 new families
☑ Complete base-line (pre-deployment) data collection
FY17 Milestones: ☐ Complete during-deployment data collection, including communication data bursts
FY18 Milestones: ☐ Complete reintegration data collection, including task-negotiation data bursts
Comments/Challenges/Issues/Concerns
- We are focusing on finishing the last few deployment protocols and moving families into reintegration data collection. For the remaining comparison group families (who did not experience deployment), we may accelerate their participation in the task interview calls, to increase the data available for these analyses.

Budget Expenditure to Date
Projected Expenditure: $ 2874 through 15 AUG 2017.
Actual Expenditure: $ 2670 through 31 AUG 2017.